COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000
VirginiaDOT.org

GREGORY A. WHIRLEY
ACTING COMMISSIONER

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
NOTICE OF CONTRACT
FMS11# 24998/RFQ#100702

March 07, 2006

Name of Contractor: Godwin Manufacturing Co.
Address: PO Box 1147
Dunn, NC 28355
Attn: Mr. David Wood

Your Bid Offer date: 02-2006
Your bid Response to: Contract# 24998/RFQ#100702

To Furnish: Dump Bodies for Trucks
Period of Contract- March 06, 2006 – March 06, 2007

Hereby is accepted at prices and terms stated, subject to all conditions and requirements Of the solicitation, purchase specifications, warranties performance bond and other stipulations, if any. The solicitation, your bid offer and this notice of acceptance constitute the contract.

Sincerely,

David M Smith

David M. Smith
Contract Officer, VCO, CPPB

100 YEARS OF TRANSPORTATION EXCELLENCE
1906 - 2006

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ADMINISTRATIVE SERVICES DIVISION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219

NOTICE OF CONTRACT AWARD

1. DATE.....03-07-2006

2. COMMODITY NAME..... Trucks, Bodies, Miscellaneous

3. Brand Of Item Godwin Manufacturing

4. CONTRACT NUMBER..... FMSII-24998 - IFB# 100702

5. CONTRACT PERIOD.....March 06, 2006-March 06, 2007

6. AUTHORIZED USERS.....State Agencies and other Public Bodies

7. CONTRACOTRS FIN NUMBER..... 561102601

8. CONTRACTOR..... Godwin Manufacturing, Inc.
PO Box 1147
Dunn, North Carolina 28335

9. CONTRACTOR CONTACT PERSON..... Mr. James Godwin Jr

10. CONTRACTOR'S PHONE NUMBER..... 910-892-0141
CONTRACTOR'S FAX NUMBER 910-892-740

11. DELIVERY..... Approx. 45 days

12. PRICES AND OPTIONS.....See Attached

13. FOB.....To each District as required by the Terms &Cond.

14. FOR FURTHER CONTRACT INFORMATION CONTACT.....David M. Smith
804-786-5179

15. FOR ADDITIONAL COPIES OF THIS AND OTHER CONTRACTS AND ANY ASSOCIATE CONTRACT CHANGES, CALL 804-786-5179

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
RICHMOND VA 23219

PRICE AND OPTION DATA
RFQ # 100702

MAKE & MODEL – Truck Bodies
2006 model- Godwin

BASE UNIT COST Please see attached price sheet.
DELIVERY: Approx. 45 days after receipt of Truck.

This contract has an extension clause/two additional years after the original year of this contract. Any price increase will be in accordance with the PPI.

Prices on the attached price sheet are FOB Richmond, VA. There will be a $1.20 Cents per mile delivery charge from Richmond to the Entity location. Delivery for State Agencies, Cites, Towns, Counties and other Entities will be 90 days.

David M. Smith
Contract Officer

filename: Unit Descriptions for Other Jurisdictions

prepared 2-7-06

NET DELIVERED PRICES TO RICHMOND FOR USE BY OTHER JURISDICTIONS

Lot	Class	Drive	CA/CT	Cab	Trans	Body	Snow Pkg.	Crane	Acc. Groups	Net Price Delivered to Richmond
1	864	4 x 2	84	reg	manual	10' dump	yes	no	1,2,3	$ 18,398.65
1A	864A	4 x 2	84	reg	allison	10' dump	yes	no	1,2,3	$ 19,089.75
2	866	4 x 2	84	crew	manual	10' dump	yes	no	1,2,3	$ 18,398.65
2A	866A	4 x 2	84	crew	allison	10' dump	yes	no	1,2,3	$ 19,069.75
3	893	4 x 4	84	reg	manual	10' dump	yes	no	1,2,3	$ 18,398.65
3A	893A	4 x 4	84	reg	allison	10' dump	yes	no	1,2,3	$ 19,209.75
4	894	4 x 4	84	reg	manual	10' dump	yes	no	1,2,3	$ 18,748.65
5	891A	4 X 2	102	crew	allison	12' dump	yes	no	1, 2	$ 19,089.75
6	890A	4 x 2	120	crew	allison	12' dump	yes	STD no remote	1, 2	$ 62,809.75
6R	890A	4 x 2	120	crew	allison	12' dump	yes	STD W/remote	1, 2	$ 73,839.75
7	890A	4 x 2	120	reg	allison	12' dump	yes	STD no remote	1, 2	$ 62,809.75
8	890A	4 x 2	120	reg	allison	12' dump	yes	HD no remote	1, 2	$ 69,289.75
9	892A	4 x 2	120	crew	allison	11' utility	yes	STD no remote	1, 4	$ 66,809.75
9R	892A	4 x 2	120	crew	allison	11' utility	yes	STD W/remote	1, 4	$ 77,839.75
10	896	6 X 4	120	reg	manual	15' dump	yes	no	1,2,3	$ 24,101.35
10A	896A	6 X 4	120	reg	allison	15' dump	yes	no	1,2,3	$ 24,712.45
11	parts	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$ 7,643.00

VDOT

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

Truck Bodies, Central Hydraulic Systems, and Accessories

I. SCOPE

The intent and purpose of these specifications is to describe the **minimum** requirements for various truck bodies and equipment packages to be furnished, installed complete, and delivered ready to operate. Systems are to be similar to those in current operation as installed on most recently purchased trucks, with variations and additions outlined herein. Hydraulic system and components are to be designed and furnished based on current design standards of the industry. Mounting locations of bodies and all equipment are subject to approval by VDOT Engineers. All truck chassis will be furnished by VDOT to the successful bidder. Upon completion, successful bidder will be responsible for delivery of each unit to its respective Virginia Department of Transportation (VDOT) District Shop as specified on Purchase Order(s).

II. BODIES

1. 10 FOOT DUMP BODY AND HOIST

COMPLY? YES/NO

General

- Commercial type contractor's body with running boards and side braces _____
- All welded construction
- Water level capacity, 4.75 cu. Yd. (22" x 84" x 120") _____
- Overall length, 120" _____
- Inside width, 84" _____
- Height of sides, approximately 19" _____
- Height of headboard and tailgate, approximately 25", minimum 6" above sides _____
- Height from top of chassis frame to dump body floor, not to exceed 16" _____
- All side braces, running board to body sides, and tailgate braces shall be continuous welded—not skip welded _____

COMPLY?
YES/NO

Structural

- Sides, headboard, tailgate, steel, 45,000 PSI yield strength, 10 gauge, high-tensile _____
- Floor, steel, 45,000 PSI yield strength, 8 gauge, high-tensile _____
- Side wall braces, three (3) on each side, manufacturer's standard design, full height with bottom drain hole, may be vertical or near vertical _____
- Rear corner posts, 11" wide, full depth _____
- Side wall top rails, full length, triple bend or boxed, 4" wide _____
- Double gussets, atop each top rail, form sideboard pockets _____
- Headboard, single V-braced for additional strength and stiffness _____
- Floor to side radius (or 45 degree chamfer) 3", compatible with tailgate spreaders currently in use by VDOT _____
- Top of running board shall be angled at least 30 degrees, to prevent material falling over sides and lodging on running boards. _____
- Full width rear apron, formed steel, serves as or supplements the rear-most cross sill. In combination with corner posts, creates rear body rigidity. _____
- Rear apron has three (3) holes cut for installation of identification lamps, see drawing titled "Truck Lighting and Accessories" for further details _____
- Keyhole tabs, upper and lower, 5/16" steel, welded to corner posts, provide anchor and adjustment for tailgate chains _____

Spreader Pan

- Removable, extends full width of body, bolts to corner posts and rear apron _____
- Approximately 8"wide, angled at 15° from horizontal, deflects hot asphalt away from lights _____

Tailgate

- Double-acting, controlled by an air-operated tailgate latch cylinder, Reference: Air Power Systems Company Model C6063 or equal _____
- Non-protruding upper hardware at each rear corner post to prevent snagging of load cover _____
- Upper and lower pins, 1-1/4" diameter _____
- Top has integral inverted "V" to prevent material accumulation _____
- Chains, 4' of 5/16", Grade 70 transport chain, attached at the top corner area, one on each side _____

COMPLY?
YES/NO

Tailgate (continued)

- Chain retainers, slide through, one near each lower corner, for use with chains to limit tailgate opening _____
- Inner surface is even with bed floor when lowered to level position _____

Body under structure

- Long sills, 5" structural channel, 9.0 Lb. per foot _____
- Cross members, 4" structural channel, 5.4 Lb. per foot, positioned 12" on center _____
- Cross members and long sills may be stacked or interlaced _____
- Unsupported floor area, 1,000 square inches or less _____
- Brackets for hoist upper arm pin interface, structural steel with adequate strength to withstand maximum cylinder thrust _____
- Pivot point, approximately 12" from rear of body _____
- Hinges, may be bolted or welded to body long sills _____
- Entire under structure, adequately reinforced and gusseted to resist distortion _____

Hoist

- Double acting, single cylinder, arm type with its own subframe, rated NTEA Class 40 for body length specified _____
- Subframe, distributes body weight evenly to chassis frame rails through at least four (4) contact points and is bolted, not welded, to chassis frame _____
- Subframe has adequate strength to withstand maximum cylinder thrust and other operational stresses _____
- Cylinder, 8" diameter with chrome plated, 2-3/4" diameter rod _____
- Hinges, may be bolted or welded to subframe _____
- Hinge pins, 1-3/4" diameter _____
- Dumping angle, 50 degrees _____
- Body safety props, one on each side _____

2. 12 FOOT DUMP BODY AND HOIST

	COMPLY? YES/NO
General	
• Standard "end dump" type	_____
• All welded construction	_____
• Water level capacity, 4 cu. yd. (14" x 90" x 144")	_____
• Overall length, 144"	_____
• Inside width, 90" between stake pockets	_____
• Overall outside width at rub rails, 96" maximum	_____
• Height of sides, 14"	_____
• Height of headboard and tailgate, approximately 22"	_____
• Reference: Godwin Manufacturing Model 8-12-B	_____
Structural	
• Side panels, floor, headboard, and tailgate, steel, 45,000 PSI yield strength, 10 gauge, high-tensile	_____
• Rear corner posts, 11" wide, full depth	_____
• Side wall top rails, full length, "J" bend, 2" wide	_____
• Full width rear cross member, in combination with corner posts, creates rear body rigidity	_____
• Keyhole tabs, upper and lower, 5/16" steel, welded to corner posts, provide anchor and adjustment for tailgate chains	_____
• Stake pockets, "outside" mount with rub rails, 2" x 4" inside dimensions, six (6) along each side of bed	_____
• Headboard, supported with structural channel or pressed steel stakes formed from 10 gauge high-tensile steel secured to body front crossmember by electric arc welding	_____
• Body side panels, press formed steel, approximately 4' long, three (3) per body side, removable, supported by two steel stakes, complete with necessary hardware and fasteners to secure upper edges of panels to mating faces.	_____
Tailgate	
• Double-acting, controlled by an air-operated tailgate latch	_____
• Upper and lower pins, 1-1/4" diameter	_____
• Top has integral inverted "V" to prevent material accumulation	_____
• Chains, 4' of 5/16", Grade 70 transport chain, attached at the top corner area, one on each side	_____
• Chain retainers, slide through, one near each lower corner, for use with chains to limit tailgate opening	_____
• Inner surface is even with bed floor when lowered to level position	_____
• Easily removable	_____
• Section pressed, properly reinforced and gusseted	_____

COMPLY?
YES/NO

Body under structure

- Long sills, 6" structural channel, 8.2 Lb. per foot _____
- Cross members, 3" structural channel, 4.1 Lb. per foot, positioned 12" on center _____
- Cross members to be stacked on long sills _____
- Unsupported floor area, 1,000 square inches or less _____
- Brackets for hoist upper arm pin interface, structural steel with adequate strength to withstand maximum cylinder thrust _____
- Pivot point, approximately 8" from rear of body _____
- Hinges, may be bolted or welded to body long sills _____
- Entire under structure, adequately reinforced and gusseted to resist distortion _____

Hoist

- Double acting, twin cylinder, scissors type, rated NTEA Class 40 for body length specified _____
- Cylinders, 5" diameter with chrome plated, 2" diameter rod _____
- Hoist to be bolted to chassis frame _____
- Hinge pins, 1-3/4" in diameter _____
- Dumping angle, approximately 45 degrees _____
- Body safety props, one on each side _____

3. 15 FOOT DUMP BODY AND HOIST

COMPLY? YES/NO

General

- Commercial type contractor's body with running boards and side braces _____
- All welded construction _____
- Water level capacity, 9 cu. yd. (28" x 84" x 180") _____
- Overall length, 180" _____
- Inside width, 84" _____
- Height of sides, approximately 28" _____
- Height of headboard and tailgate, approximately 34", minimum 6" above sides _____
- Height from top of chassis frame to dump body floor, not to exceed 17" _____
- All side braces, running board to body sides, and tailgate braces shall be continuous welded—not skip welded _____

Structural

- Sides, headboard, tailgate, steel, 45,000 PSI yield strength, 10 gauge, high-tensile _____
- Floor, steel, 45,000 PSI yield strength, 8 gauge, high-tensile _____
- Side wall braces, five (5) on each side, manufacturer's standard design, full height with bottom drain hole, may be vertical or near vertical _____
- Rear corner posts, 14" wide, full depth _____
- Side wall top rails, full length, triple bend or boxed, 4" wide _____
- Double gussets, atop each top rail, form sideboard pockets _____
- Headboard, double V-braced for additional strength and stiffness _____
- Floor to side radius (or 45 degree chamfer) 3", compatible with tailgate spreaders currently in use by VDOT _____
- Top of running board shall be angled at least 30 degrees, to prevent material falling over sides and lodging on running boards. _____
- Full width rear apron, formed steel, serves as or supplements the rear-most cross sill. In combination with corner posts, creates rear body rigidity. _____
- Rear apron has three (3) holes cut for installation of identification lamps, see drawing titled "Truck Lighting and Accessories" for further details _____
- Keyhole tabs, upper and lower, 5/16" steel, welded to corner posts, provide anchor and adjustment for tailgate chains _____

COMPLY? YES/NO

Spreader Pan

- Removable, extends full width of body, bolts to corner posts and rear apron _____
- Approximately 8"wide, angled at 15° from horizontal, deflects hot asphalt away from lights _____

Tailgate

- Double-acting, controlled by an air-operated tailgate latch cylinder, Reference: Air Power Systems Company Model C6063 or equal _____
- Non-protruding upper hardware at each rear corner post to prevent snagging of load cover _____
- Upper and lower pins, 1-1/4" diameter _____
- Top has integral inverted "V" to prevent material accumulation _____
- Chains, 4' of 5/16", Grade 70 transport chain, attached at the top corner area, one on each side _____
- Chain retainers, slide through, one near each lower corner, for use with chains to limit tailgate opening _____
- Inner surface is even with bed floor when lowered to level position _____

Body under structure

- Long sills, 7" structural channel, 14.75 Lb. per foot _____
- Cross members, 4" structural channel, 5.4 Lb. per foot, positioned 12" on center _____
- Cross members and long sills may be stacked or interlaced _____
- Unsupported floor area, 1,000 square inches or less _____
- Brackets for hoist upper arm pin interface, structural steel with adequate strength to withstand maximum cylinder thrust _____
- Pivot point, approximately 12" from rear of body _____
- Hinges, may be bolted or welded to body long sills _____
- Entire under structure, adequately reinforced and gusseted to resist distortion _____

Hoist

- Double acting, single cylinder, arm type with its own subframe, rated NTEA Class 80 for body length specified _____
- Subframe, distributes body weight evenly to chassis frame rails through at least four (4) contact points and is bolted, not welded, to chassis frame _____
- Subframe has adequate strength to withstand maximum cylinder thrust and other operational stresses _____

COMPLY? YES/NO

Hoist (continued)

- Cylinder, 8" diameter with chrome plated, 2-3/4" diameter rod _____
- Hinges, may be bolted or welded to subframe _____
- Hinge pins, 2" in diameter _____
- Dumping angle, 50 degrees _____
- Body safety props, one on each side _____
- Cycle time for raising and lowering body shall be less than one (1) minute _____

Electrical, all dump bodies

- Furnish and install all lights and reflectors necessary to meet FMVSS 108, CMVSS 108, and USDOT lighting requirements _____
- All lights; sealed, shock resistant, grommet mounted, LED _____
- Relocate chassis supplied remote 7-pole electrical connector to a rear plate common with hydraulic disconnects and other electrical connectors, convenient to hitch but not interfering with other functions (hydraulic connectors, safety chains, etc.) _____
- Furnish and install a trailer wiring harness and 6-pole connector with spring loaded cover, Cole-Hersee #1235 or mating equal, mounted on a rear plate common with hydraulic disconnects and other electrical connectors, convenient to hitch but not interfering with other functions (hydraulic connectors, safety chains, etc.) _____
- All connection(s) to chassis must utilize and mate to the weatherproof connector(s) provided with the chassis _____
- Back-up alarm K-D 621, or equal _____
- Refer to attached drawing for light positions. For four wheel drive chassis only, Stop/Turn/Tail lights and Back-up lights are to be in body apron with marker lights in top corners of corner posts, due to increased height of body. _____

Finish, all dump bodies

Body and exterior components:

Black, paint or powder coat, body, revolving beacon support plate, protective bumper, rear wheel forward mud shields, rear mud flap brackets, mounting brackets, hydraulic valve enclosure, hydraulic reservoir, hydraulic pump, pump/plow bracket, protective cover, load cover components, and outside surface of oak side boards. _____

COMPLY?
YES/NO

Rustproofing:

Material:

- Readily distinguishable substance (not clear), meets MIL-C-0083933A(MR) _____
- Composition, grit and abrasive-free, nonvolatile base material dispersed in a petroleum solvent _____
- Protects all metals _____
- Non-injurious to all materials used in automotive construction including rubber, plastics, glass, automotive finishes, and exposed electrical components _____
- Material Safety Data Sheet (MSDS), provided by successful bidder _____
- Self-healing if scratched or dented _____
- Curing test, when applied to panels and air-dried for seven days, dry to touch when firm pressure with the tip of the finger shows a slight tacky condition without any coating adhering to the finger and shall not crack, peel or chip. There shall be no evidence of rupture of the film. _____
- Fire resistance, when applied to panels and air-dried for seven days, may char but shall not support combustion for more than 15 seconds after the flame source is removed _____

Application:

- Treat all dump body cavities thoroughly and effectively with high quality rustproofing _____
- Preparation, all surfaces to be clean, dry and free from loose material _____
- Complete coverage to all interior and exterior areas, as specified by an Asset Management Division representative, with special attention to critical seams _____
- Application must not interfere with any mechanical, electrical, or heat transfer details of the vehicle _____
- Access holes, not larger than ½", accurately located to maintain structural integrity of body members and avoid damage to hidden parts _____
- After application, cap all holes with plastic or rubber seal type caps, except drain holes _____
- Drain holes or passages, remain open to assure proper water and moisture drainage after processing _____
- Remove all excess material, due to over-spray, drips or runs, from the exterior and interior of the vehicle _____

4. 11' UTILITY BODY

	COMPLY? YES/NO
General:	
• Galvanized or Galvaneal steel construction	_____
• Body panels, 16 gauge	_____
• Doors, double panel, 20 gauge	_____
• Floor and body tops, 12 gauge Diamond plate	_____
• Reference: Reading Model HD132AA	_____
• Submit body drawing with bid	_____
Compartments and Features:	
• Length approximately 130"	_____
• Inside width approximately 52"	_____
• Outside width approximately 93"	_____
• Outside height approximately 40"	_____
• Flush-type stainless steel door handles with slam action rotary door catches, riveted to doors	_____
• All locks on a body keyed-alike, all bodies keyed differently	_____
• Master locking feature to enable locking all compartments on a side with a single padlock	_____
• Manufacturer's best quality full length hinges	_____
• Gas shock type stops on all vertically hinged doors	_____
• Detachable chain stops on horizontally hinged doors to enable both horizontal and full down positions	_____
• Four (4) compartments on each side, three vertical and one horizontal, all vertical compartments are full height, all compartments have manufacturer's best quality weather tight seals	_____
• Minimum depth of all compartments, 18"	_____
• Horizontal compartments have one slotted shelf	_____
• Vertical compartments each have three slotted shelves	_____
• Wheel chock storage in fender panel on each side	_____
• Tailgate, steel, standard swing down type, approximately 14" high	_____
• Rear step bumper, diamond plate, minimum 7", maximum 9"	_____
• Grab handle, one at rear of body on curb side	_____

COMPLY?
YES/NO

Electrical:

- Furnish and install all lights and reflectors necessary to meet FMVSS 108, CMVSS 108, and USDOT lighting requirements _____
- Rear lights; sealed, shock resistant, grommet mounted, LED _____
- Side lights; must be LED, use sealed, shock resistant, grommet mounted lights to the extent body configuration allows _____
- Relocate chassis supplied remote 7-pole electrical connector to rear of body, convenient to hitch but not interfering with other functions (hydraulic connectors, safety chains, etc.) _____
- Furnish and install a trailer wiring harness and 6-pole electrical connector with spring loaded cover, Cole-Hersee #1235 or mating equal, mounted at rear of body, convenient to hitch but not interfering with other functions (hydraulic connectors, safety chains, etc.) _____
- All connection(s) to chassis must utilize and mate to the weatherproof connector(s) provided with the chassis _____
- Back-up alarm K-D 621, or equal _____

Finish:

- Entire body to be dipped or electro coated with primer at the manufacturer _____
- Paint entire body bright white to match the truck cab _____
- Paint deck surfaces of bed and step bumper with non-skid paint, Ferrox or equal _____

III. SNOW FIGHTING PACKAGES

1. SNOW FIGHTING PACKAGE FOR USE WITH ALL DUMP BODIES

COMPLY? YES/NO

Central Hydraulic System:

A. Functional Description
Functions include; plow lift, plow reverse, spreader and dump body operation. System design shall include capability for all functions to operate simultaneously, without affecting the action of any one or more functions. _____

1. Plow Lift
   - Raise and lower plow with double acting cylinder to be provided by successful bidder _____
   - Plow push frames will be furnished and installed by VDOT at a later time _____

2. Plow Reverse
   - Reverse plow angle with two (2), single-acting, 3" cylinders _____
   - Valve center, A & B to T type _____
   - Flow control, adjustable control of plow reversing speed _____

3. Spreader Circuits
   - Pulse width modulated hydraulic source for a slip-in style conveyor/spinner type body unit with independent speed control for conveyor and spinner motors _____
   - Spinner circuit has variable flow set by the in-cab spinner control, with circuit capacity of 2,000 psi at 0-8 GPM _____
   - Conveyor circuit has variable flow set by the in-cab conveyor control, with circuit capacity of 2,000 psi at 1-15 GPM _____

4. Dump Body Circuit
   - Dump body cylinder, double acting _____
   - Furnish hydraulic braking on rod end port of hoist counter balance valve _____

COMPLY? YES/NO

B. Power Supply Components

1. Front Mounting for Hydraulics and Plow
   - Front bumper reinforcement with integral mounting brackets, ½" steel plate, conforms around chassis bumper face _____
   - Mounting brackets protrude through chassis bumper and bolt to chassis frame ends, cut holes in chassis bumper as required _____
   - Tow hooks or eyes, two (2), welded to bumper reinforcement _____
   - Plow push frame ears, two pairs (4) total, ½" steel plate, welded to bumper reinforcement _____
   - Ear location, on 23" centerline to centerline between pairs with 1.5" gap between ears in a pair _____
   - Holes for push frame mounting, 13/16" diameter hole drilled through each pair of ears with the center 3-1/2" from face of bumper reinforcement _____
   - Hitch pins, two (2), ¾" diameter, one chain tethered to each pair of ears, hold push frame and protective bumper in place _____
   - Protective bumper, pin mount, used on all trucks, ½" x 5" mild steel, formed as required, mounts to ears when push frame is removed. Extends downward to protect hoses and quick disconnects. _____
   - Protective bumper, bolt on, used only with front mount pump and standard length truck frame, ½" x 5" mild steel, formed as required, mounts to face of bumper reinforcement with two (2), ½" grade 8 bolts. Extends forward to protect pump. _____
   - Complete assembly must be structurally adequate for plowing Operations _____

2. Pump
   - Gear type, all cast iron housing, SAE "B", 2 bolt mounting _____
   - Bi-rotational with side and rear ports, can be used in front mount and transmission PTO applications _____
   - Shaft, 7/8", splined to mate with drive and with groove for set screw _____
   - Sized to produce 30 to 35 GPM at maximum engine RPM, pump is the sole source of hydraulic power. An accumulator or second pump is not acceptable. _____
   - Maximum noise level, 90 dBA in regard to published OSHA Specifications _____
   - Bearings, roller, lubricated by the hydraulic fluid being pumped _____

COMPLY?
YES/NO

3. Pump drive and mount, for trucks equipped with Allison transmissions
   - Hot shift PTO with controls incorporated into the cab control console _____
   - PTO flanged for direct mount hydraulic pump _____
   - Reference: Chelsea 276 or Muncie CS-20 series _____

4. Pump drive and mount, for trucks equipped with manual transmissions
   - Pump mounting flange, SAE "B", 2 bolt type _____
   - Engine connection, SAE flange U-joint, compatible with engine Pulley _____
   - Slip-yoke and shaft assembly, SAE 13 tooth spline, 16/32 pitch, with 2" of travel to facilitate engine fan belt replacement, Spicer 1310 series or equal _____
   - Universals and slip shaft, greasable, align and clearly mark zerk fittings to facilitate lubrication _____
   - Pump mount, with standard length truck frame, fabricate integral with bumper reinforcement _____
   - Pump mount, with extended truck frame, fabricate and install an additional crossmember, full width, mounted just ahead of chassis crossmember. Attach crossmember to frame with four (4), ½" grade 8 bolts. _____

5. Unloader Valve
   - Load sensing flow control valve with a low pressure bypass _____
   - Remote mounted between the pump and hydraulic system manifold, or manifold mounted _____
   - Sends a pressure signal through the load sense line to determine the amount of flow required by the system _____
   - Bypasses excess flow to the reservoir through the bypass port _____
   - Bypasses all flow at low pressure to the reservoir when the system is at idle and requires no flow _____
   - Built-in adjustable relief limits maximum pressure to 1,900 to 2,100 psi _____

6. Reservoir
   - Capacity, 30 gallons _____
   - Constructed of 10 gauge steel with baffles _____
   - Mounted outboard of truck frame rail, rear of cab, accessible for service. Specific location to be determined per truck model and space available. _____

COMPLY? YES/NO

Reservoir (continued)

- Prefer curb side location. Include a heat shield from truck exhaust system if required. _____
- Clearly marked "Hydraulic Fluid Only" _____
- Clean out cover, 10"diameter cast aluminum, top mounted, with silicon sealing ring and four (4) bolt mounting _____
- Filter/breather cap with 300 mesh screen and a combination oil level/temperature gauge _____
- Suction port, 2" NPT, with full flow shutoff ball valve in the line at the port _____
- Return port, 1-1/4" NPT, at top of reservoir and plumbed internally to discharge within 2" of bottom _____
- Drain port, ¾" NPT with magnetic drain plug _____
- Supply and return piping arrangement placed for minimum oil loss when replacing filter or pump _____

7. Filtration
   - Suction strainer, 2", 125 micron with 3 psi bypass when screen is clogged _____
   - Return line filter, cartridge type, in reservoir clean out cover, 45 GPM capacity with 10 micron filter element, includes 25 psi bypass when cartridge is clogged. _____
   - Electric pressure sensor, activates a warning light mounted in the cab control console when the element is clogged _____

C. Control Components

1. Valve Enclosure
   - Weather resistant enclosure for manifold and valves. Consists of steel main base and cover pieces, with formed and welded steel channels, baffles and gussets as required for proper sealing. _____
   - Mounted outboard of truck frame rail, rear of cab, accessible for service. Specific location to be determined per truck model and space available. _____
   - Main base and back mounting portion, 10 gauge steel plate _____
   - Cover, 10 gauge formed steel with two steel handles. _____
   - Cover is secured to main enclosure base with two heavy duty rubber latch straps _____
   - All wiring harness cable entries are made through a weather tight compression restraint _____

COMPLY? YES/NO

Valve Enclosure (continued)

- All hydraulic lines must enter and exit from the bottom of the enclosure to facilitate ease of mounting in confined spaces _____
- Hose port connections, accessible through a silicone sealed aperture. Provide for direct exterior hydraulic port adapter entry into manifold assembly without use of extension tubing and/or piping within the valve cabinet. _____
- Road clearance, not lower than any truck chassis component _____

2. Manifold
   - Aluminum, bottom ported, mounted in valve enclosure _____
   - All solenoid, flow control, static pressure intensification, and pressure compensated proportional type valves mount to this manifold _____

3. Direction Control (solenoid) Valves
   - Parker Hannifin with 3 pin manaplug option and/or Hirschman type _____
   - Designed for "stacking" _____
   - System logic valves must be included within the manifold, not externally mounted _____
   - Solenoids, 12 volt DC, closed center, wet armature type, capable of manual operation _____

4. Flow Control Valves
   - Reverse free flow type _____
   - Knurled, adjustable control, to field adjust the speed of the hydraulic functions such as plow lift, plow angle, etc. _____

5. Static Pressure Intensification Valves
   - Adjustable, cartridge type, for bed and plow raise and lower functions. Protect the plow cylinders from high shock loading. _____
   - Speed controlled emergency release, capable of lowering the bed and plow in an emergency situation with the vehicle engine "off", operated from the valve enclosure to protect the operator. Opening of hydraulic lines to accomplish lowering is not acceptable. _____

COMPLY? YES/NO

6. Pressure Relief Valves
   - Dump body raise and lower circuit includes built-in port relief protection to limit maximum pressure in both sides of the double acting cylinder _____
   - Each work port is independently adjustable from 100 to 3,000 psi _____
   - Cartridge design, pilot operated for accuracy, and screw lock Adjustable _____
   - Remote mounted relief protection is not acceptable _____

7. Spinner and Conveyor Valves
   - Pressure compensated proportional type, motor driven valves are not acceptable _____
   - Conveyor valve will be capable of a variable forward speed via ground speed sensing and by way of in-cab, manually operated, electric variable controls _____

D. Emergency Shut Down
   - System must totally shut down, including PTO disengagement, in the event of a hose failure, high temperature or low oil level _____
   - Fluid level switch, 100 watt side mounted in the reservoir _____
   - Temperature switch, in the reservoir, plumbed into the return line from the unloader valve _____
   - Both switches have Packard Weatherpack connectors _____
   - Both switches activate a relay, which cuts power to the spreader and master switch, and illuminates a low oil light in the control console, as well as disengaging the PTO _____
   - Manual override switch, momentary type, located in the valve enclosure, includes a low oil indicator light and push to test switch located beside it _____

E. Plumbing and Connections

1. All circuits
   - Suction line from reservoir to pump, SAE 100 R4, 2" diameter _____
   - Return line from valve cabinet to filter, SAE 100 R1 _____
   - All other hoses, SAE 100 R2 Type AT _____
   - All piping connections to and from the valve cabinet, JIC swivel type _____
   - Hose routing along chassis provides maximum available clearance from exhaust system, wear points, etc. Clamp in position with rubber lined steel hangers. _____
   - All quick disconnects, valved, drip-proof style, with NPT threads, Parker FF Series with connect under pressure feature (Parker FC Series). _____

COMPLY? YES/NO

2. Plow lift circuit
   - Quick disconnects, 3/8" with NPT threads _____
   - Truck mounted "PLOW UP" disconnect, coupler half _____
   - Truck mounted "PLOW DOWN" disconnect, nipple half _____
   - Locate truck mounted disconnects below the front bumper, center of the truck, in a vertical position to each other. _____
   - Mating halves are furnished with lift cylinder _____

3. Plow reverse circuit
   - Quick disconnects, 1/2" with NPT threads _____
   - Truck mounted "PLOW RIGHT" disconnect, coupler half _____
   - Truck mounted "PLOW LEFT" disconnect, nipple half _____
   - Locate truck mounted disconnects below the front bumper, center of the truck, in a horizontal position to each other. _____
   - Mating halves, furnish loose _____

4. Spreader circuits
   - Supply line quick disconnects, 1/2" with NPT threads, coupler to conveyor, nipple to spinner _____
   - Return line quick disconnect, 1" with NPT threads, coupler _____
   - Plumb circuits with disconnects at rear of truck _____
   - Mating halves, furnish loose _____

5. Plow Lift Cylinder
   - Furnish loose for installation by VDOT _____
   - Double-acting type, similar to Model CD300, Monarch Road Machinery Company _____
   - Welded construction, includes replaceable vee packing and wiper on rod. Has replaceable piston, piston cup, and cup spacer _____
   - Outside diameter, 3" _____
   - Stroke, 10" _____
   - Rod, 1-1/2" diameter, chrome plated. _____
   - Closed dimension, center line to center line of rod/body holes, 20" _____
   - Both rod and body holes, 1-1/64" diameter _____
   - Dead end milled 1-7/8" flat, live end full round _____
   - Ports, 3/8" NPT, 90 degrees to pin eye _____
   - Fitted with 3/8" x 30" hoses with 3/8" NPT male fittings on each end _____
   - Quick disconnects, 3/8" with female NPT threads, install to mate appropriately with truck mounted disconnects _____
   - See drawing titled "Snowplow Lift Cylinder" for details _____

COMPLY?
YES/NO

Electrical System:

A. Functional Description
Functions include; manual controls through chassis switches and the cab control console, automated ground speed control for application of granular materials, and lighting specific to snow plowing needs. System design shall include a distinct split between power sourced and controlled through chassis circuits vs. power sourced and controlled through accessory circuits. This separation will aid in troubleshooting and in determination of warranty responsibility. _____

B. Power/signal supply and connections

1. Utilize wiring, circuit breakers, and connectors, per the following. Ideally, these will be factory installed by the chassis manufacturer. If not factory installed, proceed with installation of these connection points as if doing a "dealer installation". The purpose is to facilitate consistent chassis/up-fitter electrical interface and to provide clearly defined separation points between chassis circuits and up-fitter circuits. _____

   This will aid in troubleshooting and in determination of warranty responsibility. All manufacturer names and numbers listed are provided for reference only. Successful bidder is not required to use these products. However, all substitutions must be approved by VDOT and a pilot model must be reviewed and approved by VDOT for quality of materials and installation. _____

   Power Supplies: One twenty (20) amp source direct from the battery and one twenty (20) amp source through a relay energized by the ignition switch. Each source terminates with a heavy duty connector stud and each is clearly marked. Both are located adjacent to each other, in a location that is both protected from damage and convenient to service. Factory installed power supplies can be in the standard factory location (inside or outside the cab). Dealer installed power supplies shall be located inside the cab. Each source is protected by its own circuit breaker, which may be located at the chassis manufacturer's breaker panel or adjacent to the terminal studs. _____

COMPLY?
YES/NO

Power/signal supply and connections (continued)

Snow plow light circuit: A dedicated and clearly marked harness that terminates at a convenient location under the hood with a weatherproof connector, such as Packard Weatherpack or Packard Metripack. Harness includes a dash mounted selector switch to choose between chassis headlights and up-fitter mounted plow lights. High/low beam and parking lamp/turn signal functions must remain integrated in the original factory harness and will be operated by the standard factory control at all times. _____

Trailer connector circuit: A dedicated and clearly marked 6-pin trailer connector harness, in addition to the previously specified 7-pin harness. The 6-pin harness will support trailers with combination turn signal/stop lights. Harness to be protected with circuit breakers, located either at the chassis manufacturer's breaker panel or adjacent to the circuit breakers in the 7-pin harness. Harness terminates with a weatherproof connector, such as Packard Weatherpack or Packard Metripack, which can be located either behind the cab or at the end of the frame rails. _____

Auxiliary Vehicle Speed Signal (VSS): A dedicated and clearly marked speedometer tap point with minimum 25,000 pulses per mile shall be provided. Tap point may be inside the cab, outside the cab, or at the Engine Control Unit (ECU). Tap points outside the cab must terminate in a weatherproof connector. Tap points at the ECU must have a designated lead wire, three feet long, that terminates in a weatherproof connector. _____

2. Cab Control Console
   - All power to the Console must be supplied through the two 20 amp sources _____
   - All relays, sub-base mounted for ease of replacement without tools _____

COMPLY? YES/NO

3. Wiring and Connectors
   - Tamperproof sealed distribution junction boxes and sealed wiring harness. Reference: Truck-Lite "88" series or equal _____
   - Wires in circuitry to be of different color, colors with stripes, or labeled in 1" increments if same color _____
   - Harnesses, for wiring from under dash to hydraulic valve area and rear of truck _____
   - All harnesses interior of cab, "PVC" or "SO" molded jacket type _____
   - All control harnesses or auxiliary cables outside the cab, "SO" or "NVN" type _____
   - Wiring hangers, of appropriate design and quantity _____
   - Wiring harness protectors, as appropriate where harness runs through frame, metal or other abrasion causing obstructions _____
   - All external connectors, weatherproof, such as Packard Weatherpack or Packard Metripack unless otherwise specified _____

4. Spreader Connector
   - Four-pole Cole-Hersee #1206 connector with spring loaded cover _____
   - Mounting, on a plate common with hydraulic hose quick disconnects for spreader _____
   - Wiring, post - GD goes to ground, post - LT goes to the emergency light switch on the cab control console, and post - BK goes to body up disable function _____
   - Connector wiring, single piece "SO" type molded jacket cable _____

C. Control components

1. Cab Control Console
   - One console approximately 14" long by 4.5" wide, appropriate size for all controls, switches, and interior circuitry _____
   - Mounted on brackets attached to floor beside operator's seat near the bottom seat cushion level for ease of operation _____
   - Directional orientation, straight forward with automatic transmission, angled as required to clear manual gear shift lever _____
   - Gasketed for oil tight and dustproof environment _____
   - Design, similar to consoles currently in use by VDOT, but incorporate the following components _____
   - See Drawing "Control Console" for general layout _____
   - Connector at cab control console, placed for easy replacement of console _____

COMPLY? YES/NO

2. Joystick control
   - Positioned on the console, at front edge _____
   - Four-way pistol grip type joystick actuator controls all hydraulic functions, in two modes, as follows: _____

     Plow Mode:
     Forward = Plow Down
     Back = Plow Up
     Left = Plow Left
     Right = Plow Right

     Dump Mode:
     Forward = Body Down
     Back = Body Up
     Left = Tarp Cover
     Right = Tarp Uncover

   - Thumb button near the top controls conveyor blast _____
   - Trigger switch must be depressed for any function to activate _____

3. Dial controls and indicators
   - Positioned on the console, immediately behind the Joystick, in two rows _____
   - Spinner and conveyor control dials, eleven position (0 through 10), detented, modular units, defective parts can easily be replaced as needed with standard mechanics tools _____
   - First row, spinner control dial on street side, conveyor control dial on curb side, Spreader On (green) indicator light between the two dials _____
   - Second row, Body Elevated (red) indicator light on street side, Replace Filter (amber) indicator light in center, Low Oil (red) indicator light on curb side _____

4. Rocker switches, five (5)
   - Positioned on the console, immediately behind the second row indicator lights _____
   - Back lit to denote function when parking lights are on, get brighter to denote function is on _____
   - Spreader - Auto/Off/Manual selector switch with LED indicator between control dials. Switch is a modular unit, defective parts can easily be replaced as needed with standard mechanics tools _____
   - Dump Mode/Plow Mode _____
   - Master switch - Off/On, energizes PTO and hydraulic system _____

COMPLY? YES/NO

Rocker switches, five (5) (continued)

- Emergency Lights switch – Off/On _____
- Spreader Lights switch – Off/On _____

5. Circuit breakers
   - Positioned on the console, along curb side of rocker switches _____
   - Four Circuit Breakers from front to back - 5, 20, 20, and 20 amp. _____

D. Electronic ground speed spreader control

- Electronics, micro-processor based with nonvolatile memory to allow for unanticipated changes in input speed signals and to allow output software changes to be made. _____
- Capable of manual or ground speed oriented control _____
- Designed for flow control regulation at truck speeds from one MPH to 35 MPH in the ground speed controlled mode _____
- Independent speed control of the spinner and conveyor motors _____
- Speed pulse signals to the spreader control must be supplied through the dedicated VSS tap point described in this section _____
- Connection to the VSS tap point must utilize and mate to a weatherproof connector if located outside the cab _____

E. Lights

1. Powered and controlled through chassis circuits

   a. Snow plow Lights
   - The Number 9 position on attached drawing is auxiliary snow removal headlights with park/turn lamps _____
   - Clear halogen head lamps only _____
   - Mounting, shock mount adjustable sockets attached to heavy steel support brackets _____
   - Support brackets, securely mounted in the grill or fender area, minimum height to center of sealed beam is 66" above road surface _____
   - If fender mounted, lights must be mounted far enough forward to allow aiming with mechanical headlight aimer _____
   - Final location subject to VDOT approval _____
   - Headlights must be controlled from the dash mounted selector switch described in this section _____

COMPLY?
YES/NO

2. Powered and controlled through Cab Control Console
   a. Spreader Light
   - Sealed, shock resistant, grommet mounted, incandescent with clear lens, Truck-lite 40204 or equal _____
   - Location, under the street side rear corner of the body, facing down _____
   - Controlled from a control console mounted switch with On/Off, maintained action, includes light to indicate function on _____

   b. Strobe light
   - Reference: Target Tech 851 or equal _____
   - Strobe light (number 8 position on attached drawing) mounted on a self-leveling bracket _____
   - Bracket, attached to body with two, grade five, non-rusting bolts and self-locking nylon nuts _____
   - Bottom light mounting plate, must be as large in dimension as the diameter of the light _____
   - Location of mounting, center on top or front leading edge of cab shield _____
   - Light to be wired to emergency light switch in control console _____

Start-Up and Testing:

Successful bidder shall be responsible for initial pre-testing of hydraulic system to include the following:

- Initial fill of hydraulic system complete. _____
- Hydraulic system of each truck is to be operated for a period of not less than 15 minutes to purge system of foreign matter. At end of period, a new filter element is to be installed. _____
- Any leaks or defective components shall be corrected prior to delivery to State. _____
- Vendor will be responsible for initial test operation of spreader, Plow or auxiliary tools on completed truck units to determine if All systems are functioning properly. Additionally, the hydraulic System should be road or dyno tested in the automatic mode with the spinner console control a "0" position and 7 GPM with control at position 10. The conveyor circuit should produce 0 GPM with conveyor console control at "0" position and 15 GPM with control at position 10. _____

2. SNOW FIGHTING PACKAGE FOR USE WITH UTILITY BODIES

COMPLY? YES/NO

Hydraulic System:

A. Functional Description
Functions include plow lift and plow reverse. The plow is raised and lowered with a double acting cylinder to be provided by successful bidder. Plow push frames will be furnished and installed by VDOT at a later time. The plow angle is reversed with two (2), single acting, 3" cylinders operated through a center A & B to T type valve. _____

B. Power Supply Components

1. Front Mounting for Hydraulics and Plow
   - Front bumper reinforcement with integral mounting brackets, ½" steel plate, conforms around chassis bumper face _____
   - Mounting brackets protrude through chassis bumper and bolt to chassis frame ends, cut holes in chassis bumper as required _____
   - Tow hooks or eyes, two (2), welded to bumper reinforcement _____
   - Plow push frame ears, two pairs (4) total, ½" steel plate, welded to bumper reinforcement _____
   - Ear location, on 23" centerline to centerline between pairs with 1.5" gap between ears in a pair _____
   - Holes for push frame mounting, 13/16" diameter hole drilled through each pair of ears with the center 3-1/2" from face of bumper reinforcement _____
   - Hitch pins, two (2), ¾" diameter, one chain tethered to each pair of ears, hold push frame and protective bumper in place _____
   - Protective bumper, pin mount, used on all trucks, ½" x 5" mild steel, formed as required, mounts to ears when push frame is removed. Extends downward to protect hoses and quick disconnects. _____
   - Complete assembly must be structurally adequate for plowing operations _____

2. Pump
   - Electric over hydraulic, mounted under running boards or between frame rails behind cab as space permits _____
   - Includes self contained reservoir and filtration as appropriate _____
   - Sized to produce ample power for all plow functions. _____

COMPLY? YES/NO

3. Plumbing
   - All hoses, SAE 100 R2 Type AT _____
   - Hose routing along chassis provides maximum available clearance from exhaust system, wear points, etc. Clamp in position with rubber lined steel hangers. _____
   - All quick disconnects, valved, drip-proof style, with NPT threads, Parker FF Series with connect under pressure feature (Parker FC Series). _____
   - Road clearance, no lines or fittings lower than any truck chassis component _____

4. Plow lift connections
   - Quick disconnects, 3/8" with NPT threads _____
   - Truck mounted "PLOW UP" disconnect, coupler half _____
   - Truck mounted "PLOW DOWN" disconnect, nipple half _____
   - Locate truck mounted disconnects below the front bumper, center of the truck, in a vertical position to each other. _____
   - Mating halves are furnished with lift cylinder _____

5. Plow reverse connections
   - Quick disconnects, 1/2" with NPT threads _____
   - Truck mounted "PLOW RIGHT" disconnect, coupler half _____
   - Truck mounted "PLOW LEFT" disconnect, nipple half _____
   - Locate truck mounted disconnects below the front bumper, center of the truck, in a horizontal position to each other. _____
   - Mating halves, furnish loose _____

6. Plow Lift Cylinder
   - Furnish loose for installation by VDOT _____
   - Double-acting type, similar to Model CD300, Monarch Road Machinery Company _____
   - Welded construction, includes replaceable vee packing and wiper on rod. Has replaceable piston, piston cup, and cup spacer _____
   - Outside diameter, 3" _____
   - Stroke, 10" _____
   - Rod, 1-1/2" diameter, chrome plated. _____
   - Closed dimension, center line to center line of rod/body holes, 20" _____
   - Both rod and body holes, 1-1/64" diameter _____
   - Dead end milled 1-7/8" flat, live end full round _____
   - Ports, 3/8" NPT, 90 degrees to pin eye _____
   - Fitted with 3/8" x 30" hoses with 3/8" NPT male fittings on each end _____

COMPLY?
YES/NO

Plow Lift Cylinder (continued)

- Quick disconnects, 3/8" with female NPT threads, install to mate appropriately with truck mounted disconnects _____
- See drawing titled "Snowplow Lift Cylinder" for details _____

Electrical System:

A. Functional Description
Functions include; manual controls through chassis switches and the cab control console and lighting specific to snow plowing needs. System design shall include a distinct split between power sourced and controlled through chassis circuits vs. power sourced and controlled through accessory circuits. This separation will aid in troubleshooting and in determination of warranty responsibility. _____

B. Power/signal supply and connections

1. Utilize wiring, circuit breakers, and connectors, per the following. Ideally, these will be factory installed by the chassis manufacturer. If not factory installed, proceed with installation of these connection points as if doing a "dealer installation". The purpose is to facilitate consistent chassis/up-fitter electrical interface and to provide clearly defined separation points between chassis circuits and up-fitter circuits. _____

This will aid in troubleshooting and in determination of warranty responsibility. All manufacturer names and numbers listed are provided for reference only. Successful bidder is not required to use these products. However, all substitutions must be approved by VDOT and a pilot model must be reviewed and approved by VDOT for quality of materials and installation. _____

Power Supplies: One twenty (20) amp source direct from the battery and one twenty (20) amp source through a relay energized by the ignition switch. Each source terminates with a heavy duty connector stud and each is clearly marked. Both are located adjacent to each other, in a location that is both protected from damage and convenient to service. Factory installed power supplies can be in the standard factory location (inside or outside the cab). Dealer installed power supplies shall be located inside the cab. Each source is protected by its own circuit breaker, which may be located at the chassis manufacturer's breaker panel or adjacent to the terminal studs. _____

COMPLY?
YES/NO

Snow plow light circuit: A dedicated and clearly marked harness that terminates at a convenient location under the hood with a weatherproof connector, such as Packard Weatherpack or Packard Metripack. Harness includes a dash mounted selector switch to choose between chassis headlights and up-fitter mounted plow lights. High/low beam and parking lamp/turn signal functions must remain integrated in the original factory harness and will be operated by the standard factory control at all times. _____

Trailer connector circuit: A dedicated and clearly marked 6-pin trailer connector harness, in addition to the previously specified 7-pin harness. The 6-pin harness will support trailers with combination turn signal/stop lights. Harness to be protected with circuit breakers, located either at the chassis manufacturer's breaker panel or adjacent to the circuit breakers in the 7-pin harness. Harness terminates with a weatherproof connector, such as Packard Weatherpack or Packard Metripack, which can be located either behind the cab or at the end of the frame rails. _____

2. Cab Control Console
   - All power to the Console must be supplied through the two 20 amp sources. _____
   - All relays, sub-base mounted for ease of replacement without tools _____

3. Wiring and Connectors:
   - Tamperproof sealed distribution junction boxes and sealed wiring harness. Reference: Truck-Lite "88" series or equal _____
   - Wires in circuitry to be of different color, colors with stripes, or labeled in 1" increments if same color _____
   - Harnesses, for wiring from under dash to hydraulic valve area and rear of truck _____
   - All harnesses interior of cab, "PVC" or "SO" molded jacket type _____
   - All control harnesses or auxiliary cables outside the cab, "SO" or "NVN" type _____
   - Wiring hangers, of appropriate design and quantity _____
   - Wiring harness protectors, as appropriate where harness runs through frame, metal or other abrasion causing obstructions _____
   - All external connectors, weatherproof, such as Packard Weatherpack or Packard Metripack unless otherwise specified _____

COMPLY?
YES/NO

C. Control components:

1. Cab Control Console:
   - One console approximately 14" long by 4.5" wide, appropriate size for all controls, switches, and interior circuitry _____
   - Mounted on brackets attached to floor beside operator's seat near the bottom seat cushion level for ease of operation _____
   - Directional orientation, straight forward with automatic transmission, angled as required to clear manual gear shift lever _____
   - Gasketed for oil tight and dustproof environment _____
   - Design, similar to consoles currently in use by VDOT, but incorporate the following components _____
   - See Drawing "Control Console" for general layout _____
   - Connector at cab control console, placed for easy replacement of console _____

2. Joystick control
   - Positioned on the console, at front edge _____
   - Trigger switch must be depressed for any function to activate _____
   - Four-way pistol grip type joystick actuator controls all hydraulic functions for plow, as follows: _____

     Forward = Plow Down
     Back = Plow Up
     Left = Plow Left
     Right = Plow Right

   - Trigger switch must be depressed for any function to activate _____

3. Rocker switches
   - Master switch - Off/On, energizes hydraulic system _____
   - Emergency Lights switch – Off/On, available for future light installation _____

4. Circuit breakers
   - Positioned on the console, along curb side of rocker switches _____
   - Four Circuit Breakers from front to back - 5, 20, 20, and 20 amp. _____

COMPLY?
YES/NO

D. Lights

1. Plow lights, powered and controlled through chassis circuits:
   - The Number 9 position on attached drawing is auxiliary snow removal headlights with park/turn lamps _____
   - Clear halogen head lamps only _____
   - Mounting, shock mount adjustable sockets attached to heavy steel support brackets _____
   - Support brackets, securely mounted in the grill or fender area, minimum height to center of sealed beam is 66" above the road surface _____
   - If fender mounted, lights must be mounted far enough forward to allow aiming with mechanical headlight aimer _____
   - Final location subject to VDOT approval _____
   - Headlights must be controlled from the dash mounted selector switch described in this section _____

Start-Up and Testing:

Successful bidder shall be responsible for initial pre-testing of hydraulic system to include the following:

- Initial fill of hydraulic system complete. _____
- Hydraulic system of each truck is to be operated for a period of not less than 10 minutes to purge system of foreign matter. At end of period, a new filter element is to be installed. _____
- Any leaks or defective components shall be corrected prior to delivery to State. _____

IV. Cranes

1. Standard Bridge Truck Crane

COMPLY? YES/NO

General:

1. Hydraulic, articulating type, meets or exceeds current ANSI B30.2 and/or DIN 15018 H1-B3, plus all applicable ASME, AWS, and OSHA requirements. Furnish supporting documentation. _____
2. Two (2) or three (3) hydraulic boom extensions _____
3. One (1) jib boom, not longer than 6' _____
4. Outriggers, dual, manual out, hydraulic down, with safety overload valves _____
5. Boom rotation, 360 degrees continuous or 390 degrees non-continuous _____
6. Reference Units: National N-65A, Palfinger 10000, or equal _____

Capacities and Dimensions:

1. Rotation Torque, 6,000 Ft-Lb. _____
2. Outrigger span, 15' _____
3. Outrigger pads, 64 square inches each _____
4. Maximum vertical reach with all booms extended, not less than 32' 0" _____
5. Maximum horizontal reach with only hydraulic booms extended, not less than 25' 6" _____
6. Maximum horizontal reach with hydraulic booms and jib boom extended, not less than 30' 0" _____
7. Inner load lift eye location, 5.0' to 9.0' from center of base with booms in horizontal position _____
8. Lift capacity at inner load lift eye, 7.000 Lb. to 12,500 Lb. _____
9. Lift moment at inner load lift eye, not less than 62,500 Ft-Lb. _____
10. Lift capacity at 30', not less than 1,800 Lb. _____
11. Stowed height above truck frame in folded position, not more than 96" _____
12. Stowed width in folded position, not more than 98" _____
13. Required mounting space with winch, approximately 34". Must fit between cab and specified utility body with adequate clearance on both sides. _____

PTO and Hydraulics:

1. PTO and hydraulic system are completely stand alone systems, not utilized for any other function on the truck _____
2. Hot shift PTO with dash mounted controls and PTO in gear indicator light. _____
3. PTO flanged for direct mount hydraulic pump _____
4. Reference: Chelsea 276 or Muncie CS-20 series _____
5. If truck has an Allison transmission, program PTO to disengage when transmission is shifted from neutral _____

COMPLY? YES/NO

PTO and Hydraulics (continued):

6. Working pressure, 3,800 to 4,600 PSI _____
7. Pump design, as recommended by crane manufacturer _____
8. Pump capacity, 7.9 GPM _____
9. Hydraulic power (GPM x PSI), 20.0 Horsepower _____
10. Reservoir capacity, ample to supply the unit in all working conditions _____
11. Return line filtration, maximum offered by manufacturer _____
12. Counterbalance valves, lock boom in case of hose or pressure failure _____

Performance:

1. Winch line speed, approximately 20' per minute _____
2. Boom extension time, approximately 15 seconds _____
3. Boom swing time (360 degrees), approximately 20 seconds _____

Controls:

1. Standard
   Stationary, at base of crane, on both sides of vehicle _____

2. Option, in addition to standard controls
   Remote, hand held, may be wireless or tethered with at least 15' of cable, includes engine start/stop switch plus five proportional functions with full multi-function capability. Include operator's belt type harness and battery charger mounted in cab with wireless remote. _____

Winch:

1. Mounted on the first or second section from the vertical boom _____
2. Drum capacity, at least 70' of 7/16" wire rope _____
3. Bare drum pulling capacity, at least 4,000 Lb. _____
4. Includes a full drum of 7/16" wire rope, appropriate hook, down weight, and all required anti two-block devices _____
5. Detachable single sheave at boom tip _____

Finish:

1. Paint entire crane bright white to match the truck cab _____

2. Heavy Duty Crane

COMPLY? YES/NO

General:

1. Hydraulic, articulating type, meets or exceeds current ANSI B30.22 and/or DIN 15018 H1-B3, plus all applicable ASME, AWS, and OSHA requirements. Furnish supporting documentation. _____
2. Two (2) or three (3) hydraulic boom extensions _____
3. One (1) jib boom, not longer than 6' _____
4. Outriggers, dual, manual or hydraulic out, hydraulic down, with safety overload valves _____
5. Boom rotation, 360 degrees continuous or 390 degrees non-continuous _____
6. Reference Units: National N-80A, or equal _____

Capacities and Dimensions:

1. Rotation Torque, 17,000 Ft-Lb. _____
2. Outrigger span, 14' _____
3. Outrigger pads, 64 square inches each _____
4. Maximum vertical reach with all booms extended, not less than 32' 0" _____
5. Maximum horizontal reach with only hydraulic booms extended, not less than 25' 6" _____
6. Maximum horizontal reach with hydraulic booms and jib boom extended, not less than 30' 0" _____
7. Inner load lift eye location, 5.0' to 9.0' from center of base with booms in horizontal position _____
8. Lift capacity at inner load lift eye, 10.000 Lb. to 18,000 Lb. _____
9. Lift moment at inner load lift eye, not less than 77,000 Ft-Lb. _____
10. Lift capacity at 30', not less than 2,300 Lb. _____
11. Stowed height above truck frame in folded position, not more than 96" _____
12. Stowed width in folded position, not more than 98" _____
13. Required mounting space with winch, not more than 42" _____

PTO and Hydraulics:

1. PTO and hydraulic system are completely stand alone systems, not utilized for any other function on the truck _____
2. Hot shift PTO with dash mounted controls and PTO in gear indicator light. _____
3. PTO flanged for direct mount hydraulic pump _____
4. Reference: Chelsea 276 or Muncie CS-20 series _____
5. If truck has an Allison transmission, program PTO to disengage when transmission is shifted from neutral _____
6. Working pressure, 3,400 to 4,600 PSI _____
7. Pump design, as recommended by crane manufacturer _____
8. Pump capacity, 11 GPM _____
9. Hydraulic power (GPM x PSI), 28.0 Horsepower _____

COMPLY? YES/NO

PTO and Hydraulics (continued):

10. Reservoir capacity, ample to supply the unit in all working conditions
11. Return line filtration, maximum offered by manufacturer
12. Counterbalance valves, lock boom in case of hose or pressure failure

Performance:

1. Winch line speed, approximately 30' per minute _____
2. Boom extension time, approximately 15 seconds _____
3. Boom swing time (360 degrees), approximately 20 seconds _____

Controls:

1. Stationary, at base of crane, on both sides of vehicle _____

Winch:

1. Mounted on the first or second section from the vertical boom _____
2. Drum capacity, at least 70' of 7/16" wire rope _____
3. Bare drum pulling capacity, at least 4,000 Lb. _____
4. Includes a full drum of 7/16" wire rope, appropriate hook, down weight, and all required anti two-block devices _____
5. Detachable single sheave at boom tip _____

Finish:

1. Paint entire crane bright white to match the truck cab _____

V. Accessory Components

COMPLY?
YES/NO

Accessory Group 1, all trucks

I. Water Cooler Carrier
- Similar to those in current use by VDOT _____
- Approximately 13" x 13" x 8" deep, open construction _____
- Bolted to curb side end of truck front bumper _____
- Location does not extend past width of truck or block headlights _____

II. Fuel Tank Vent Screen
- Furnish and install Chassis OEM screen on fuel tank vent if not provided by the chassis supplier _____

Accessory Group 2, all dump bodies

I. Forward mud shields, both sides:
- Constructed of 10 gauge steel with adequate bracing _____
- Located ahead of the forward rear axle _____
- Mounted to chassis in near vertical position _____
- Approximate size, 24" wide and 30" long, similar to mud shield in current use by VDOT _____
- Shields do not extend beyond outside edge of body _____

II. Rear mud flaps, both sides:
- Plain black rubber with no logos _____
- Mounting bracket, 10 gauge steel, includes one hook per flap to hold flap off the tire. _____
- Approximate size 24" wide and 36" long, equivalent to mud flap in current use by VDOT. Mount with 10" road clearance. _____

III. Tailgate Operation:
- Latch cylinder, air operated, retract to latch type, 2.5" bore diameter, 6" stroke _____
- Valve exhaust vents outside cab _____

IV. Toolbox
- Approximate size, 36" wide, 18" high, 18" deep _____
- Constructed of 14 gauge steel _____
- Continuous hinge on door and "T" handle latch _____
- Specific location, size, and mounting arrangement to be determined per truck model and space available _____

COMPLY? YES/NO

V. Tow Hitch

- Mounting bracket, includes a structurally adequate mounting plate with diagonal bracing, welded to chassis frame rails to form a rear crossmember. All components and welding comply with hitch rating and SAE J849B. _____
- Pintle hook, Wallace Forge R-45-4 or equal, without air and plunger, bolted to mounting plate _____
- Pintle hook location, height at center approximately 27" from ground, position so dump body apron will not strike it when body is raised _____
- Safety chain hooks, one on each side of pintle hook, U shaped, ¾" rod with 2-3/4" throat _____
- Hitch to accommodate paving machine hopper _____

Accessory Group 3, 10' and 15' dump bodies

I. Cab shield:

- Full body width, similar to cab shield in current use by VDOT _____
- Steel, 45,000 PSI yield strength, 10 gauge, high tensile _____
- Extension, 18" forward of bulkhead _____
- Cab clearance, approximately 3" _____
- Exhaust clearance, 2" _____

II. Load Cover System

- Reference: Godwin Manufacturing HYDRA-TARP or equal. All components are to be easily replaced or repaired with common mechanics tools _____

A. Arms

- Dual side mount arms and crossbar constructed of 1-1/4" schedule 40 pipe _____
- Side arm crossbar connector, constructed of 1" schedule 80 pipe and attached to crossbar by cotter pins _____
- Side mount arms, crossbar, and connector are mandrel bent and arched to provide more clearance for loading of body _____
- Mounted system does not extend more than 3" on either side of body _____
- All pivot points have 1" diameter pins and with 1-1/2" long bearing Area and zerk type grease fittings _____

COMPLY?
YES/NO

B. Hydraulic
- Arms are operated by a single or dual hydraulic cylinder(s) mounted in such a manner that they cannot be damaged by loading operations _____
- Load cover operates as an independent function, capable of being locked at any position in the range of movement _____
- Tarp cylinder(s) have pilot operated check valve(s) and adjustable flow control valve to adjust speed and lock tarp when covered _____
- Hydraulic power is taken from the central hydraulic system (no electric pump) _____

C. Drum and Cover
- Drum assembly, no less than 4" diameter with enclosed spring to maintain constant tension on tarp cover _____
- Drum bearings, sealed, permanently lubricated type _____
- Cover material, black, 18 oz. asphalt rated vinyl, with finished width of 84" _____
- All edges doubled, 2", complete length and width of cover _____
- All seams, double stitched (sewn twice) _____
- Front of cover has 4, #2 spur eyelets equally spaced for attaching to roller bar _____
- Sides of cover have a #4 pocket for installation of crossbar _____
- Cover is long enough to fully cover body with two rounds of cover material remaining on the roller bar and/or 3' longer than length of body _____

III. Sideboards
- Red oak, 6" high, thickness adequate to fill cuff at each end of body _____
- Secured with lag bolts at cuff _____

IV. Body Safety Steps
- Full length of body, both sides _____
- Minimum 1" clearance from side of body, allows loose material to fall through _____
- Step material, similar to Bustin Part Number 624 _____

COMPLY?
YES/NO

V. Access Ladders:

- One on curb side and one on street side of the body, forward of the rear wheels. Exact location to be determined during construction. _____
- Retractable type, two rung, approximate width 14.5" and length 28" _____
- Constructed of heavy gauge steel with slip proof treads _____
- Reference brands, Automatic Truck Door, Inc., E-Z Step, or approved equal. _____

VI. Grab Handles:

- Two on each side of body, mounted vertically, one on each side of access ladder. Exact size and placement to be determined during construction. _____
- Constructed of 5/8" cold rolled steel rod _____
- Extend from middle of dump body top rail to just above the safety step, 2" from body at closest point _____

Accessory Group 4, utility bodies

I. Tow Hitch

- Mounting bracket, includes a structurally adequate mounting plate with diagonal bracing, welded to chassis frame rails to form a rear crossmember. All components and welding comply with hitch rating and SAE J849B. _____
- Pintle hook, Wallace Forge R-45-4 or equal, without air and plunger, bolted to mounting plate _____
- Pintle hook location, height at center approximately 27" from ground _____
- Safety chain hooks, one on each side of pintle hook, U shaped, ¾" rod with 2-3/4" throat _____
- Wheel chocks, two (2) _____

VI. Other Requirements

Special Conditions of Bidding:

Specification Details

The apparent low bidder will be required to make presentation of bid details to engineers of the Asset Management Division sufficient to verify that material and components meet the intent and operational characteristics of these specifications.

Liquidated Damages

Unless otherwise noted, delivery of requested units is required no later than June 15, 2006. It is understood and agreed by the bidder that time is of the essence in the delivery of material of the quantity and quality specified in the bid document. In the event these items are not delivered in the quantities specified there will be deducted, not as a penalty but as liquidated damages, the amount of ½% per day for each and every business day for each unit not delivered as specified; except that if the delivery is delayed by any act, negligence, or default on the part of the Commonwealth, public enemy, war, embargo, fire, or explosion not caused by the negligence or intentional act of the contractor or his supplier(s), or by riot, sabotage, or labor trouble that results from a cause or causes entirely beyond the control or fault of the contractor or his supplier(s), a reasonable extension of time as the procuring public body deems appropriate may be granted. Upon receipt of a written request and justification for any extension from the contractor, the purchasing office may extend the time for performance of the contract or delivery of goods herein specified, at the purchasing office's sole discretion, for good cause shown.

PAYMENT WITHHOLDING

VDOT reserves the right to withhold payment of up to five units from the total order until all contractual obligations are met, or in the event there are discrepancies found on delivered units that must be corrected by the vendor. Determination of the right to withhold payment will be at the sole discretion of VDOT's Asset Management Division.

Decals and Accessories:

Furnish and install decals and accessories per the following. All vendor and manufacturer names and numbers listed are provided for reference only. Successful bidder is not required to use these products or sources. However all substitutions must be approved by VDOT and a pilot model must be reviewed and approved by VDOT for quality of materials and installation. Successful bidder will be provided with photos to assist with location and placement of decals and accessories.

Decals:

Interior

- **IN CASE OF ACCIDENT CALL STATE POLICE**
  Part No. CNAP97843, Korman Signs Inc.

  Install one (1) on dash near ignition switch

Exterior

- **VDOT logo**, large size
  Part No. CVDT1667, Korman Signs Inc.

  Install on front doors, one (1) on street side and one (1) on curb side.

- **Rental unit numbers, trucks with non-dumping bodies three (3") inch**
  Assemble three (3) complete sets of the unique number for each vehicle. Consists of the letter "R" followed by five (5) digits.

  Use black material for installation on light surfaces and white material for installation on dark surfaces. One (1) set on street side front door, one (1) set on curb side front door, and one (1) set on rear of vehicle. Reference separate list for Korman Signs part numbers.

- **Rental unit numbers, trucks with dump bodies three (3") inch**
  Assemble one (1) additional complete set of the unique number for each vehicle. Consists of the letter "R" followed by five (5) digits.

  Use black material for installation on light surfaces and white material for installation on dark surfaces. Install on front face of cab guard on street side. Reference separate list for Korman Signs part numbers.

- **Gross Weight marking on dump bodies**
  No part number at this time. Decal is 3" wide by 12" long white retro-reflective vinyl with 7 year guarantee. Text is printed, Black, in 2" high characters, same font as rental unit numbers, centered top to bottom and right to left on decal with minimum ½" white border at each end.

  Install one on each side of dump body, at the forward edge, just below the top rail. Appropriate text for various truck sizes follows:

Single axle, medium duty	**G.W. 33000**
Tandem axle with wheelbase < 19'	**G.W. 49500**
Tandem axle with wheelbase => 19'	**G.W. 50000**

- **Diesel Fuel**
  Part No. CVDT63683, Korman Signs Inc.

  Install one (1) at each fuel fill location on diesel powered vehicles, as close to the fuel fill opening as practical and in clear vision of the person adding fuel.

- **Conspicuity tape**
  2" Red and White, 7 year warranty, meets or exceeds NHTSA and FHWA specifications with DOT-C2 marking.
  Reference: Truck-Lite and Grote Catalogs.

  Install as appropriate along the full length of the lower edge of the body, both sides, and as appropriate across the rear of the vehicle. Also, install one (1) strip, 15" long, on the fender above each front steer axle end. Maintain at least 3" distance from all lights and reflectors.

- **Tire size and air pressure**, as appropriate.
  Reference the following list for tire specifications and Korman Signs part numbers.

  11R22.5 Load Range H - Part No. CVDT172848B
  315/80R22.5 Load Range J - Part No.

  Install one (1) above each axle end for individual axles or one (1) above each trunnion end for tandem axle sets.

Accessories:

Interior

- **Fire Extinguisher**, 2.5 Lb. dry chemical ABC
  Model 250MB-1, Badger Fire Protection
  Available from Guardian Fire Safety

  Install one (1) in each vehicle, location to be specified by VDOT

- **First Aid Kit**, Commonwealth of Virginia
  Meets ANSI Z308.1-1998 Type I, II, III with required minimum fill
  Part No. TOP636-001, OBBCO

  Install one (1) in each vehicle, location to be specified by VDOT

- **DOT Triangle Reflector Kit**, SATE-LITE 711
  Part No. 1005, Prime Automotive

  Install one (1) in each vehicle, location to be specified by VDOT

Exterior

- **Brake Sentry**, wear indicator
  Available from Brake Sentry

  Install one (1) in each brake chamber

Reference part numbers for number decals and letter "R" decals from Korman Signs Inc.

CHARACTER	3" Black	3" White	2" Black
1	LC852UNPSB1	LC852UNPSW1	LC854UNPSB1
2	LC852UNPSB2	LC852UNPSW2	LC854UNPSB2
3	LC852UNPSB3	LC852UNPSW3	LC854UNPSB3
4	LC852UNPSB4	LC852UNPSW4	LC854UNPSB4
5	LC852UNPSB5	LC852UNPSW5	LC854UNPSB5
6/9	LC852UNPSB6	LC852UNPSW6	LC854UNPSB6
7	LC852UNPSB7	LC852UNPSW7	LC854UNPSB7
8	LC852UNPSB8	LC852UNPSW8	LC854UNPSB8
0	LC852UNPSB0	LC852UNPSW0	LC854UNPSB0
R	LC802ULPSBR	LC802ULPSWR	LC804ULPSBR

Reference Vendor List for Decals and Accessories

Korman Signs Inc.
3029 Lincoln Avenue
Richmond, VA 23228
(804) 262-6050

Backrack Inc.
475 Wyecroft Road
Oakville, Ontario
(800) 265-8137

OBBCO
1737 South Park Court
Chesapeake, VA 23320
(757) 420-4000

Brake Sentry
P. O. Box 2256
Asheville, NC 28802
(866) 548-0545

Campbell Brown Inc.
3814 North Graham Street
Charlotte, NC 28221
(800) 849-5050

Guardian Fire Safety
957 A Myers Street
Richmond, VA 23230

Prime Automotive
P. O. Box 747
Olive Branch, MS 38654-0747

Warranty: VDOT Minimum Warranty Requirements – On Highway Equipment

The warranty of each unit shall include the chassis, engine, drive train, modifications, etc., and shall be equal to or greater than the current OEM standard warranty. The vehicle and all final-stage components shall be warranted and guaranteed to be free from defects beginning at VDOT established In-Service date, as follows; Parts and Labor shall be covered at one hundred percent (100%).

The successful bidder, under the manufacturers' warranty, or there own warranty, shall make good any defects, not due to typical wear items or improper use, which may develop within the warranty period. Body Manufacturers or Attachment/Upfit Vendors supplying attachments or Upfit items only, are responsible for the product/service they provide, unless otherwise noted. All materials and accessories used in the vehicles/equipment, whether the manufacturer makes them or they are purchased from an outside source, shall be covered under this warranty provision. The minimum acceptable warranty requirements for this product are listed on the following page. No third party sureties, after market warranties, or warranties offered from anyone accept the dealer or OEM shall be acceptable.

A copy of this warranty signed by an authorized agent for the successful bidder shall be provided in the bid documents. The warranty shall cover each vehicle/equipment purchased on this contract. Any modification added to the base OEM vehicle that must be removed from the vehicle to perform warranty work will be at the cost of the warranty provider.

Should the manufacturer's standard warranty exceed the minimum State warranty requirements, the manufacturer's warranty will run in conjunction with and enhance the State's warranty, then continue for the remainder of its term. A copy of all warranties for the complete unit, plus attachments shall be provided with the bid documents.

Warranty Claims: If practicable, warranty work will be performed at the OEM dealer shop(s)and or authorized repair facilities. However, because of the remoteness of some equipment, the number of units and or the cost of the repair, this is not always practicable or economical. VDOT reserves the right to perform warranty work in-house and submit warranty claims for the costs of the repairs. Parts may be supplied by the OEM or purchased through the dealer network.

Labor hours to be charged will be the actual repair time used at VDOT's applicable flat labor rate in effect at the time of the repair. The vendor may at their option send their technicians to perform warranty work. In any event there will be no charge to VDOT for travel or transportation expenses for technician travel, parts and or labor associated with warranty work. All transportation charges incurred for freight, delivery and pickup of vehicle/equipment to service facilities – including towing, driver's time, lodging, and or all service providers' technician fees are to be covered/reimbursed by the warranty provider at no cost or obligation to VDOT.

Factory Recall: Nationwide factory recall or product update repairs or replacements are the responsibility of the vendor and/or manufacturer. In such cases, factory recall and modification work will be handled in the same manner as warranty work.

Minimum Warranty Requirements: In order to be in compliance with the terms of this contract, the bidder shall provide the following minimum warranty requirements for the vehicle/equipment being offered. Signature must be provided.

Cab and Chassis: *Minimum of 36 months or 36,000 miles or Manufacturers standard warranty – whichever is greater.*
Engine: *Minimum of 60 months or 100,000 miles or Manufacturers standard warranty – whichever is greater.*
Transmission: *Minimum of 60 months or 100,000 miles or Manufacturers standard warranty – whichever is greater.*
Drive Train Components: *Minimum of 60 months or 100,000 miles or Manufacturers standard warranty – whichever is greater.*
Attachments/Upfit Items: *Two (2) years or 2,000 hours, less wear and normal maintenance items – or manufacturers standard warranty – whichever is greater.*

Check Warranty that Applies	*Yes*	*Give reason if no*
Unit Warranty Included in Bid Documents		
Attachment Warranties Included in Bid Documents		

By signature the bidder agrees to abide by the terms and conditions specified in this warranty document. Failure to complete this portion of the bid document will cause the bid to be rejected for non-compliance with bidder requirements.

Signed by: (print name) _____

Signature: _____ **Date:** _____

Work Title: _____ **Phone** _____

Bid Literature: Descriptive literature will be required to substantiate the details specified in bid.

Advertisement: No stickers, decals, or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

Safety: Vehicle to be furnished shall conform to all applicable Federal Motor Vehicle Safety Standards, and all equipment shall conform to Title 46.2, Chapter 10, of the Code of Virginia and shall include a valid State Inspection Sticker.

Current Model: To be standard proven model of manufacturer's latest current production and include all standard equipment as advertised with additional optional equipment as above. All components, unless otherwise required by the specifications, shall be the standard or optional equipment specifically advertised and installed by the manufacturer.

Catalogs and Manuals:

Parts catalogs, service manuals, operator's manuals, or other material needed to satisfy these requirements are not to be bid as separate items. All materials shall be furnished as specified and applicable to the equipment bid at no additional cost. The successful bidder specifically agrees that such material supplied under this section may be copied or reproduced in any manner for use by VDOT.

A. Two (2) electronic format copies of descriptive parts catalogs, operator's manuals and shop/service manuals containing OEM Part Nos. covering all systems, components, and accessories for the specific make and model of equipment bid. These are to be delivered to Erle Potter, Assistant Director for Equipment Management, VDOT Asset Management Division/Equipment Section, 1401 E. Broad Street Richmond, VA 23219 as soon after receipt of purchase order as possible. VDOT will not make payment of any equipment until the electronic manuals have been received, access to and approval to reproduce from the manufacturer web site, or an arrangement exists with Service Professionals Inc. and the manufacturer of equipment has been approved and accepted.

B. One (1) operator's manual for the specific make & model of equipment shall be in each piece of equipment when delivered. Failure to furnish will delay payment.

C. Two (2) electronic format copies of manufacturer's production list of materials or bill of materials (line setting sheet)containing OEM Part Nos., parts codes, and variations unique to serial numbered equipment delivered, covering all systems, components, and accessories shall be furnished prior to equipment delivery.

D. One (1) electronic format of the list of consumable and preventative maintenance items (filters, hoses, belts, brake pads, etc.) for the exact model of equipment offered shall be furnished prior to equipment delivery.

E. Two (2) electronic format copies of quarterly updates of parts catalogs and shop manuals for the specific make and model of equipment delivered shall be furnished to the State at the same time such updates are furnished to the dealer.

Electronic Format: The successful bidder shall be responsible for providing the electronic media as described above in a format recognizable and useable by VDOT and Service Professionals Inc. systems. All electronic pages shall be in .pdf normal text format with no encryption, de-skewed for proper viewing, landscaped pages shall be rotated to portrait view, and all colored text and graphics shall be maintained including wiring schematics. Electronic manuals shall represent the text associated with manuals with accuracy of 99+%.

In lieu of electronic format, VDOT will accept two original paper versions of items listed above. Where possible, paper version is to be presented in 8.5" by 11" portrait presentation. Items A and C will be converted for VDOT in electronic format and the successful bidder will be assessed a total of $.50 per page for the conversion of data. Pages are defined as 8.5" by 11" sheet, one side. The successful bidder will be invoiced the pass through conversion costs VDOT incurs from Service Professionals Inc. to convert to the electronic format as indicated above.

NOTE: Payment for the equipment shall not be rendered by VDOT until such electronic manuals are determined by VDOT to be suitable for use in VDOT's electronic infrastructure.

Technical Service Bulletins: Successful bidder shall provide technical service bulletins (TSBs) for all equipment delivered to a VDOT as they are published regardless of the date of delivery. TSBs may be furnished in paper format, or on CD-ROM updated regularly. VDOT personnel will monitor receipt of TSBs and may contact the successful bidder if no TSBs are received. The successful bidder specifically agrees that such material may be copied or reproduced in any manner for use by VDOT.

Technician Training: The successful bidder agrees to conduct training sessions developed specifically for VDOT's equipment repair technicians. The training will be scheduled through VDOT's contracted training coordinator, ManTech Solutions and Technologies Corporation. Bidder shall provide the name and telephone number of the equipment manufacturer's training representative in the blanks at the end of this section. Training is to commence, as determined by VDOT, approximately six to twelve months after the last unit is placed in service by VDOT.

Training topics will be determined by VDOT and communicated to the manufacturer's training representative by ManTech. A list will be sent to the manufacturer's training representative detailing any problems VDOT has encountered with the equipment. Training shall include complete diagnosis and repair of the listed problems as well as detailed preventive maintenance procedures (A, B, C, & D levels) and discussion of any problems or updates known by the manufacturer. ManTech will send the list to the manufacturer two months prior to the scheduled training date.

One training session will be scheduled in each district (at the district equipment section location) that received the equipment. The maximum number of training sessions required per year would be ten. For renewable term contracts, training sessions will be required each year orders are placed from the contract.

Training sessions will include a minimum of 16 hours (two eight-hour days) of training.

Manufacturer's Training Representative

Name: _____

Telephone Number: _____

VII. PURCHASE LOTS

Chassis Sources:

Truck chassis cabs for Lots 4, 9, and 9A will be Internationals, supplied by Goodpasture Motor Company, Inc., Bristol Virginia-Tennessee. Lot 4 is model 7500 while Lots 9 and 9A are model 7600. Contact Frank Goodpasture III at (540) 669-0311.

Truck chassis cabs for all other Lots will be GMCs, model C7500, supplied by Capital Pontiac-GMC Trucks, Richmond, Virginia. Contact Jim Wester at (804) 222-4600.

LOT 1

REGULAR CAB, 4 X 2, DUMP, CLASS CODE 864

CHASSIS - 36,220 LB GVWR with 84" cab-to-axle dimension and manual 5 speed transmission with 2 speed rear.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR MANUAL TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 1A

REGULAR CAB, 4 X 2, DUMP, CLASS CODE 864A

CHASSIS – 36,220 LB GVWR with 84" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 2

CREW CAB, 4 X 2, DUMP, CLASS CODE 866

CHASSIS - 36,220 LB GVWR with 84" cab-to-axle dimension and manual 5 speed transmission with 2 speed rear.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR MANUAL TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 2A

CREW CAB, 4 X 2, DUMP, CLASS CODE 866A

CHASSIS – 36,220 LB GVWR with 84" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 3

REGULAR CAB, 4 X 4, DUMP, CLASS CODE 893

CHASSIS - 36,220 LB GVWR with 84" cab-to-axle dimension and manual 6 speed transmission.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR MANUAL TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 3A

REGULAR CAB, 4 X 4, DUMP, CLASS CODE 893A

CHASSIS - 36,220 LB GVWR with 84" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 4

REGULAR CAB, 4 X 4 HD, DUMP, CLASS CODE 894

CHASSIS - 37,000 LB GVWR with 84" cab-to-axle dimension and manual 10 speed transmission.

EQUIPMENT:
- 10' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR MANUAL TRANSMISSION
- ACCESSORY GROUPS 1, 2, 3

LOT 5

CREW CAB, 4 X 2, DUMP, CLASS CODE 891A

CHASSIS – 36,220 LB GVWR with 102" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 12' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- ACCESSORY GROUPS 1, 2

LOT 6

CREW CAB, 4 X 2, DUMP W/ STD CRANE, CLASS CODE 890A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 12' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- STANDARD BRIDGE TRUCK CRANE, NO REMOTE
- ACCESSORY GROUPS 1, 2

LOT 6R

CREW CAB, 4 X 2, DUMP W/ STD CRANE, CLASS CODE 890A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 12' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- STANDARD BRIDGE TRUCK CRANE, WITH REMOTE
- ACCESSORY GROUPS 1, 2

LOT 7

REGULAR CAB, 4 X 2, DUMP W/ STD CRANE, CLASS CODE 890A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 12' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- STANDARD BRIDGE TRUCK CRANE, NO REMOTE
- ACCESSORY GROUPS 1, 2

LOT 8

REGULAR CAB, 4 X 2, DUMP W/ HD CRANE, CLASS CODE 890A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 12' DUMP BODY & HOIST
- DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
- HEAVY DUTY CRANE
- ACCESSORY GROUPS 1, 2

LOT 9

CREW CAB, 4 X 2, UTILITY BODY W/ STD CRANE, CLASS CODE 892A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 11' UTILITY BODY
- UTILITY BODY SNOW FIGHTING PACKAGE
- STANDARD BRIDGE TRUCK CRANE, NO REMOTE
- ACCESSORY GROUPS 1, 4

LOT 9R

CREW CAB, 4 X 2, UTILITY BODY W/ STD CRANE, CLASS CODE 892A

CHASSIS - 36,220 LB GVWR with 120" cab-to-axle dimension and Allison transmission.

EQUIPMENT:
- 11' UTILITY BODY
- UTILITY BODY SNOW FIGHTING PACKAGE
- STANDARD BRIDGE TRUCK CRANE, WITH REMOTE
- ACCESSORY GROUPS 1, 4

LOT 10

REGULAR CAB, 6 X 4, TANDEM DUMP, CLASS CODE 896

CHASSIS - 50,000 LB GVWR with 120" cab-to-trunnion dimension and manual 10 speed transmission.

EQUIPMENT:

15' DUMP BODY & HOIST
DUMP BODY SNOW FIGHTING PACKAGE FOR MANUAL TRANSMISSION
ACCESSORY GROUPS 1, 2, 3

LOT 10A

REGULAR CAB, 6 X 4, TANDEM DUMP, CLASS CODE 896A

CHASSIS - 50,000 LB GVWR with 120" cab-to-trunnion dimension and Allison transmission.

EQUIPMENT:

15' DUMP BODY & HOIST
DUMP BODY SNOW FIGHTING PACKAGE FOR ALLISON TRANSMISSION
ACCESSORY GROUPS 1, 2, 3

LOT 11

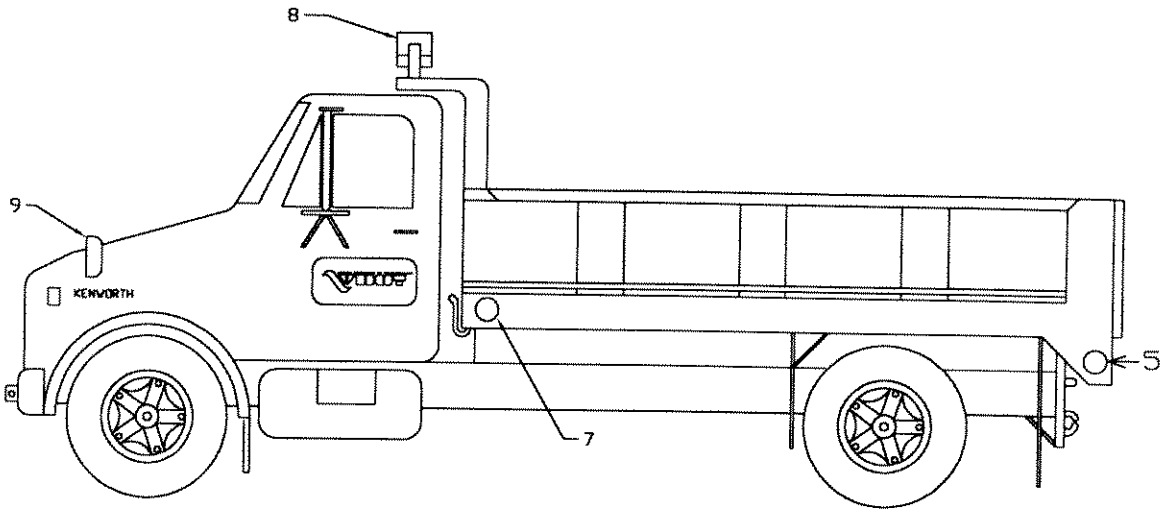
SET OF SPARE PARTS

Parts for dump truck central hydraulic system, consists of:

- One (1) complete valve set, including Manaplug wires with each valve, as installed in completed truck
- One (1) complete return line filter, element and housing
- One (1) complete cab console, including pigtail and connector

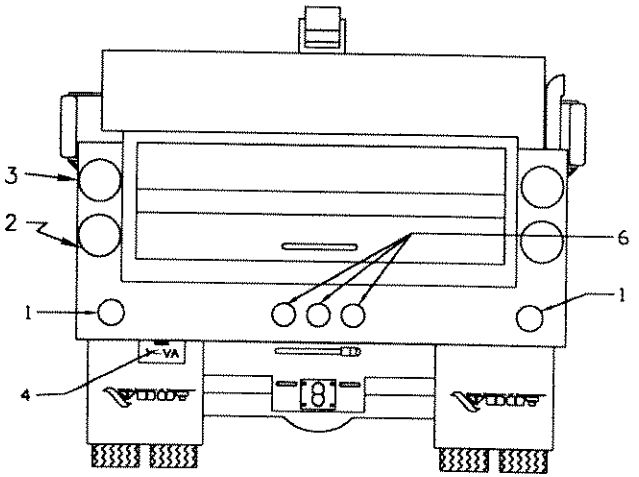
FILE: TRUCK05.DWG

DRAWING 1



KEY

1. – 3" RED REFLECTOR REF K-D 335
2. – GROMMET MOUNTED SEALED CLEAR BACK-UP LAMP REF. TRUCK-LITE 44205C
3. – COMBINATION STOP/TAIL/TURN LIGHT REF. TRUCK-LITE 44302R
4. – LICENCE PLATE LIGHT AND MOUNTING BRACKET REF. TRUCK-LITE 15040
5. – GROMMET MOUNTED SEALED CLEARANCE LAMP REF. TRUCK-LITE 10250R
6. – GROMMET MOUNTED SEALED IDENTIFICATION LAMPS (3) REF. TRUCK-LITE 10250R
7. – 3" AMBER REFLECTOR REF. K-D 335 AMBER
8. – AMBER STROBE LIGHT REF. TARGET-TECH MODEL 851 WITH FLUSH ENCLOSED BOTTOM & SELF-LEVELING BRACKET
9. – SNOW PLOW LIGHT REF. TRUCK-LITE 80800 SNOW PLOW LIGHT KIT



Truck Lighting & Accessories

VIRGINIA DEPARTMENT OF TRANSPORTATION

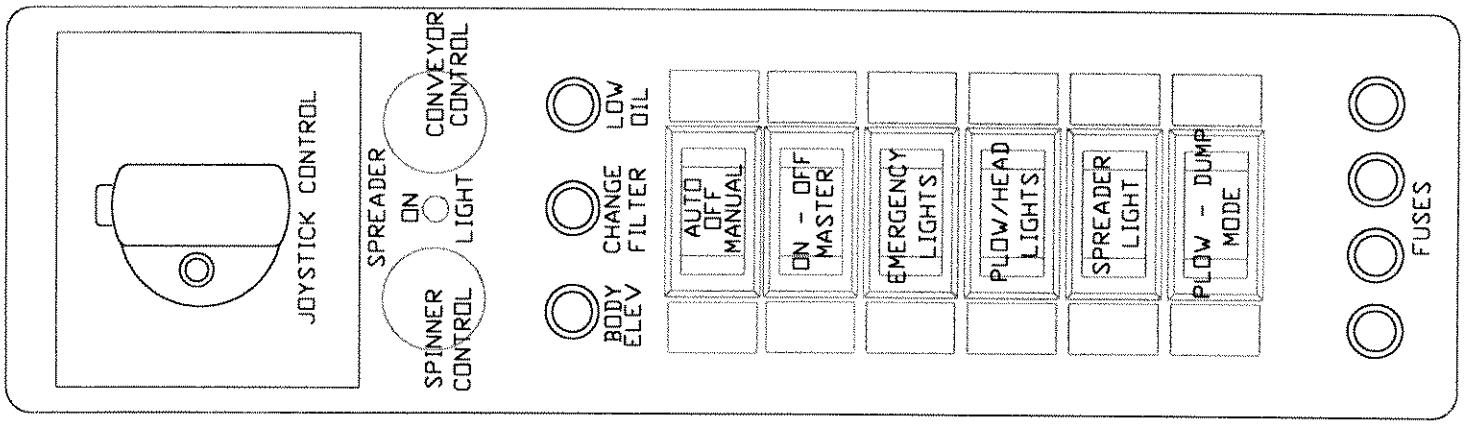
VDOT EQUIPMENT DIVISION RICHMOND, VA 23219

DATE: 10/24/05

BY: VDOT Empl

FILE: console05.dwg

DRAWING 1



Control Console

VIRGINIA DEPARTMENT OF TRANSPORTATION

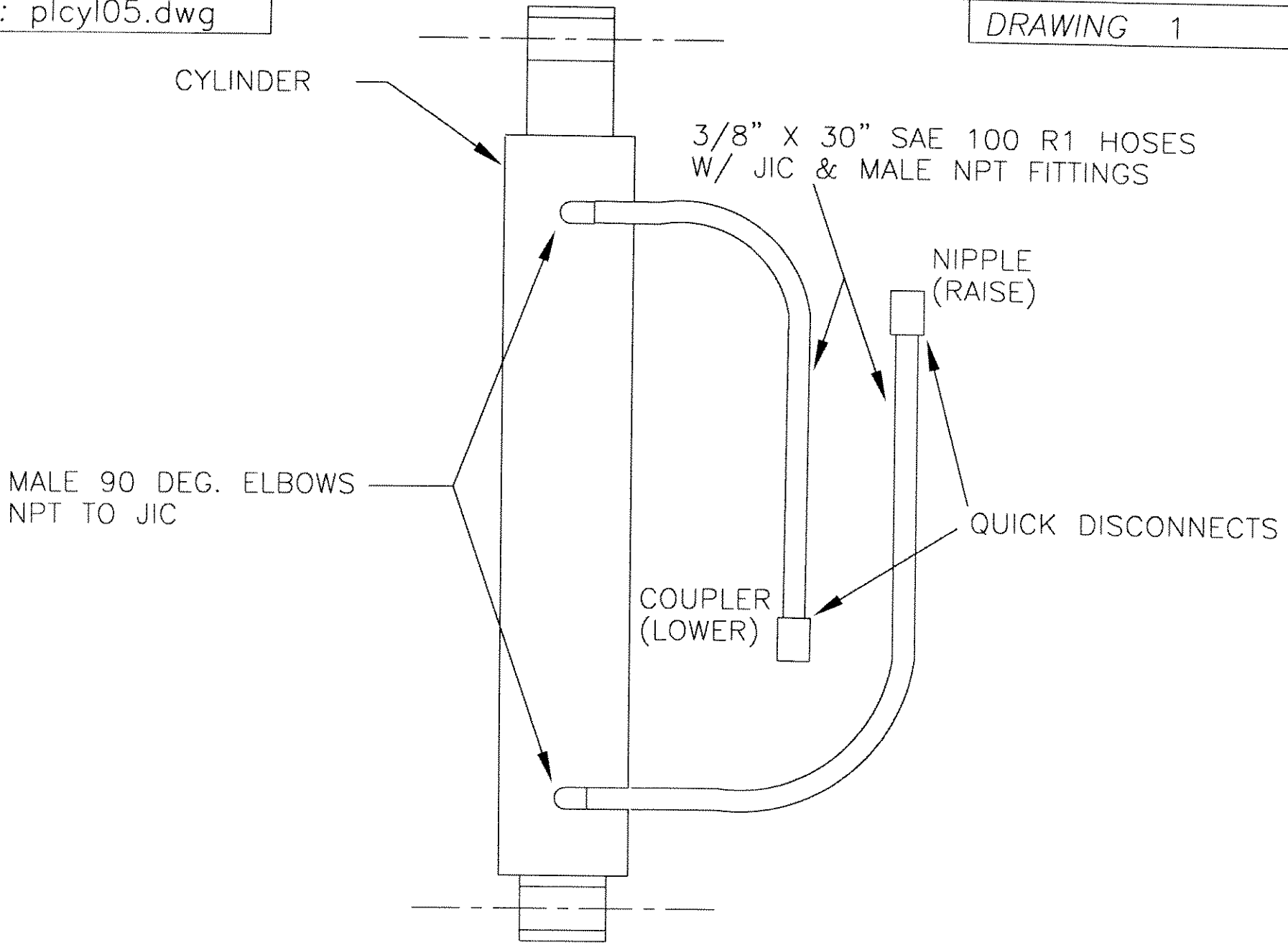
EQUIPMENT DIVISION
RICHMOND, VA 23219

DATE: 10/24/05

BY: VDOT Empl

FILE: plcyl05.dwg

DRAWING 1



Snowplow Lift Cylinder

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT EQUIPMENT DIVISION RICHMOND, VA 23219

DATE: 10/24/05

BY: VDOT Empl